Abstract

An impulse response matrix of a received signal in a TDMA communications system is approximated using a plurality of indirect variables of a linear complex vector. The indirect variables are used for synchronizing to the received signal and for tracking and frequency offset estimation during successive samples of the received signal, the samples being equalized in dependence upon the indirect variables. A demodulated signal is derived from the equalized received signal samples. Individual synchronization and tracking units, and a single equalizer, can be provided for a two-antenna receiver. Tracking errors can be used to adapt a parameter of the equalizer to reduce interference in the received signal.